

Peabody, Daniel (EGLE)

From: Peabody, Daniel (EGLE)
Sent: Monday, June 27, 2022 9:55 AM
To: saric.james@epa.gov
Cc: Miller, Megen (AG); Roberts, Keegan (robertsk@cdmsmith.com); Williams, Lisa; Diana, Matthew (DNR); Walczak, Joseph (EGLE); Kline, David (EGLE); Trumble, Luke (EGLE); Riley, John (EGLE); Mills, Mark (DNR); Alexander, Kyle (EGLE); Haroldson, Derek (EGLE); Wesley, Jay (DNR)
Subject: EGLE Cover Letter and Detailed Comments_Kalamazoo River Superfund Site OU5 Area 1 Remedial Reach RA_CQAQCP_CWP_OMMP_RAWP
Attachments: FINAL_EGLE Cover Letter and Detailed Comments_OU5 Area 1 RA_CWP_RAWP_OMMP_CQAQCP.pdf

Jim,

Attached are EGLE's comments on the Round 8 submittals for subject work plans (WPs) that were submitted to support the ongoing remedial action (RA) for the Remedial Reach. The Round 8 submittals included the Construction Quality Assurance and Quality Control Plan (CQAQCP), the Construction Work Plan (CWP), the Operations, Maintenance, and Monitoring Plan (OMMP), and the Remedial Action Work Plan (RAWP). These four work plans mark the final submittals for the remedial reach, except for those work plans that require revision and have not yet been submitted.

Thanks,

Daniel Peabody

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LIESL EICHLER CLARK
DIRECTOR

June 27, 2022

VIA E-MAIL and U.S. MAIL

Jim Saric
Remedial Project Manager
United States Environmental Protection Agency
Region 5
77 West Jackson Boulevard (SR-6J)
Chicago, Illinois 60604-3511

Dear Jim Saric:

SUBJECT: Michigan Department of Environment, Great Lakes, and Energy (EGLE) Comments on the Construction Quality Assurance Quality Control Plan (CQAQCP), the Construction Work Plan (CWP), the Operations, Maintenance, and Monitoring Plan (OMMP), and the Remedial Action Work Plan (RAWP), all dated May 2022, Area 1 of Operable Unit 5 (OU5), Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site (Site).

By way of this correspondence, EGLE formally submits this cover letter and detailed comments (attached) for inclusion in the Administrative Record for the Site. A brief description of the Area 1 remedial action (RA) is included below, a few over-arching comments are provided thereafter, and detailed comments are included as an attachment.

The draft subject documents that were submitted provide details to support implementation of the Area 1 RA. Georgia-Pacific and International Paper are respondents (Respondents) to a Unilateral Administrative Order (UAO) (Docket No: V-W- 17-C-002) for remedial design (RD) and RA for Area 1 of OU5. The UAO requires implementation of the Area 1 Record of Decision (ROD) (Appendix A) and the procedures and requirements for implementing the work, are outlined in the Statement of Work (SOW) (Appendix B) that is included as an attachment to the UAO. The selected sediment remedy in the Area 1 ROD requires, among other things, excavation of the Crown Vantage Side Channel (CVSC) and select sediment 'hot spots' in a portion of the river referred to as the remedial reach which begins in the city of Kalamazoo near Mayors Riverfront Park and extends approximately three river miles downstream to Parchment.

Following completion of the RD/RA pre-design investigation (PDI) as described in the PDI Evaluation Report Parts 1 & 2, the PDI sampling in 2017 'eliminated' KPT-20 as a 'hot spot' but the PDI sampling identified Verburg Park Pond as a 'hot spot'.

At the 30 percent RD phase, the United States Environmental Protection Agency (U.S. EPA) approved a request from the Respondents to splinter the RD/RA

for the sediment remedy into three individual components based on location. The RD and RA for the CVSC 'hot spot' was completed in 2020 and 2021, respectively.

The 95 percent Sediment Remedial Design (95RD) – Remedial Reach, which included design details for 'hot spots' KRT-4, KRT-5/FF-19, and SIM-1 was submitted in August 2021, followed by an Addendum that was submitted in October 2021 for Bedform 118 (SED-118), which is an additional 'hot spot' located upstream of the Verburg Park Pond outlet that was identified during the RD/RA PDI and added to the scope of the RD/RA by the U.S. EPA during development of the 95RD – Remedial Reach. EGLE provided a cover letter and detailed comments on the 95RD – Remedial Reach and Addendum to the U.S. EPA on October 27, 2021. The Final Sediment Remedial Design (100RD) – Remedial Reach was submitted on December 17, 2021. EGLE provided comments on the 100RD to the U.S. EPA on February 9, 2022, and the U.S. EPA issued an approval of the 100RD and authorization to proceed with RA the same day. The sediment RD for the furthest upstream 'hot spot' in the Remedial Reach, KPT- 19, is not part of this RD/RA. EGLE expects to receive a standalone RD for KPT-19 soon.

The subject CWP, RAWP, OMMP, and CQAQCP (Work Plans) were submitted per the requirements of Section 4 of the SOW and provide details for sediment 'hot spots' referred to as KRT-4, KRT-5/FF-19, Verburg Park Pond (VPP), SED-118 and SIM-1, which are in the Remedial Reach. The CWP and CQAQCP were submitted on May 24, 2022, and the RAWP and OMMP were submitted on May 26, 2022. The subject work plans are the final four work plans identified in the Respondents submittal tracking table, which includes a total of 23 work plans submitted over a 55 day period from April 1 to May 26, 2022.

EGLE's comments were developed after reviewing the subject document, presentation slides provided during work groups meetings that were held on March 29, April 11, April 12, April 19, April 22, April 26, May 3, May 10, May 26, and June 8, and following a site visit to the proposed staging areas that was held on April 7 and attended by the U.S. EPA and their consultant (Jacobs Engineering), EGLE, the Area 1 Respondents and their respective consultants (Wood Environment & Infrastructure Solutions [Wood], and GeoSyntec Consultants), and the contractor that was selected by the Respondents to implement the RA (Sevenson Environmental Services).

With the submission of this letter, EGLE has provided comments to the US EPA on all 23 work plans under eight separate cover letters that generally grouped comments for each work plan by the week they were submitted. To-date the US EPA has issued conditional approval on 17 work plans, including the subject RAWP, while three work plans have been disapproved.

Similar to the RA work plans that were submitted by the Respondents prior to implementing the RA at the CVSC, the Respondents requested an expedited review and comment time. RA work plans were developed and submitted by the Respondents concurrent with ongoing work at the site to setup construction facilities, and dredging

in the Remedial Reach was targeted to begin on or around June 13, 2022, pending completion of site preparation activities necessary to support completion of dredging operations, including removal of submerged debris, and final construction of sediment processing areas. The request for an expedited review was driven by the desire to maximize the field season since in-water activity can be cut short due to brief, but severe weather conditions during the construction season and/or seasonal weather patterns that can create prolonged, hazardous field conditions, and to prevent the Respondents contractors from being idle on-site.

On June 8, 2022, the Respondents notified the US EPA and EGLE they were ready to begin debris removal from VPP by the end of the week and estimated that it would take a few days to complete. On June 14, 2022, the Respondents notified the US EPA and EGLE that they had completed some, but not all, site preparation activities and communicated their intent to begin dredging activities the following day, pending approval of the subject RAWP and receipt of a notice to begin dredging. On June 15, 2022, the US EPA provided a letter to the Respondents that conditionally approved the RAWP and authorized dredging to begin. The US EPA did not have comments on the RAWP and did not include comments on the subject CWP, the CQAQCP or OMMP, Appendices C and G, respectively, of the subject RAWP, under the June 15 cover letter. However, the June 15 cover letter does require a revised RAWP to be submitted within 30 days of receipt of comments on the final RAWP Appendices. EGLE was simply unable to meet the accelerated deadline for review and comment on all the subject Work Plans covered under this submittal package.

The most recent version of the Respondents' submittal tracking table that was shared with EGLE and is dated May 27, 2022, shows that nine revised work plans have been submitted and all nine were submitted on May 27, 2022. Of the nine revised work plans, EGLE performed a preliminary review and comment crosswalk on one work plan, the Revised Post-Dredge Backfill and Confirmation Field Sampling Plan (FSP), in an effort to document which comments were or were not addressed. EGLE expedited review of the Revised FSP ahead of other, draft work plans because the Revised FSP establishes protocols for how data necessary to evaluate remedial performance standards will be collected and EGLE had significant comments on the Draft FSP. EGLE provided that crosswalk to the US EPA on June 7, 2022. Because the Respondents requested an expedited review, EGLE has not yet revisited and reviewed the other revised work plans or the response to comments provided for each work plan. However, as previously discussed, EGLE intends on revisiting select work plans that were revised and resubmitted by the Respondents and reserves the right to comment on those documents as well as any other documents that are developed by the Respondents in the future for this RA.

EGLE is hopeful that the Respondents will adequately address comments that were previously submitted on the subject Work Plans; however, EGLE is concerned that approving the RAWP and allowing dredging to proceed before the comments are addressed could disincentivize the Respondents from adequately addressing comments on outstanding work plans and submitting revised documents in a timely

manner. EGLE awaits receipt of several revised work plans and looks forward to reviewing those documents.

Since the schedule set forth has not provided sufficient time to review, revise, and re-submit all RA work plans prior to initiation of dredging and the majority of RA work plans that need to be revised have not been resubmitted, EGLE is inserting select, critical comments below that were provided on earlier submittals in addition to providing a few, over-arching comments on the subject Work Plans. EGLE's full set of detailed comments on the subject Work Plans are provided as an attachment.

1. The desire to delay reporting until all sediment 'hot spots' in the Remedial Reach, including KPT-19, have been addressed is not acceptable. EGLE agrees a final completion report will need to be submitted once the entire remedial action is complete; however, similar to reporting that was requested as part of the CVSC RA, there are key pieces of information that should be reported once the remedial action associated with the subject Work Plans is finished. A list of deliverables developed by EGLE and the US EPA for the CVSC RA and provided to the Respondents is included below.

- a. Isopach maps showing:

- i. The elevation of the final dredge surface. Six-inch contour interval. Red-green-blue (RGB) color ramp if a color ramp is used. Confirmatory sample locations should also be shown with polychlorinated biphenyl (PCB) results.
- ii. The elevation of the pre-dredge surface. Six-inch contour interval. RGB color ramp if a color ramp is used.
- iii. The elevation of the final post-backfill/restoration surface. Six-inch contour interval. RGB color ramp if a color ramp is used.
- iv. A comparison between the pre-dredge elevation and the post-dredge elevation. Six-inch contour interval. RGB color ramp if a color ramp is used.
- v. A comparison between the proposed dredge surface and final dredge surface. Six-inch contour interval. RGB color ramp if a color ramp is used.
- vi. A comparison between the approved backfill design surface and the as surveyed backfill design surface. Six-inch contour interval. RGB color ramp if color ramp is used.

- b. Explanation of any significant differences.

- c. Figure(s) showing surveyed and/or measured backfill thickness.
 - d. Maps with survey data should include a figure showing the survey transects and/or global positioning system (GPS) points that were collected and used to generate the figures should also be included.
 - e. All maps should be delivered as PDFs and all electronic data (i.e., geospatial, chemical, survey, etc.) used in the figures must be submitted.
 - f. Delivery of all data including but not limited to post-dredge total polychlorinated biphenyl (total PCB) confirmation samples, waste characterization samples (Per- and Polyfluoroalkyl Substances [PFAS], PCBs, etc.), wastewater treatment compliance sample results, results from geotechnical sampling, analytical results for “clean” fill, etc. And, an explanation of how samples were collected in the field.
 - g. Delivery of a photo journal with core photos and descriptions for all confirmatory cores; photos collected pre-, during, and post-construction documenting site activities and the pre- and post-construction condition.
 - h. Lessons learned presentation/deliverable that generally covers design, planning, and operations.
 - i. Tables showing volume and mass of sediments removed and the volume/mass that was trucked to each landfill.
 - j. A summary of the design and all remediation activities along with a schedule of when activities were conducted and completed.
 - k. Certification by a professional engineer that the project was completed per the design and met the confirmation sampling, backfill criteria, etc.
 - l. Operations, Maintenance, and Monitoring information, results from completed inspections, and a schedule for future inspections.
2. The Table Of Contents in the subject RAWP includes several work plans (7) that were developed and submitted to support the remedial action for the Area 1 Remedial Reach as standalone appendices (Appendices A through G). However, when including the subject Work Plans, a total of 23 work plans were developed and submitted to the Agencies for review.

Many of the remaining work plans that were not identified as standalone appendices in the RAWP are included as Attachments in the subject CWP which is an Appendix to the subject RAWP (Appendix A).

Of the 23 work plans that were submitted for review, the US EPA disapproved three work plans, conditionally approved 17 work plans (including the subject

RAWP), and three work plans are still currently under review. The US EPA Comment Letter for the Area 1 Remedial Action Work Plan – Remedial Reach provided approval to begin dredging and conditionally approved the RAWP and requires the Respondents to incorporate comments that are provided on the subject RAWP.

It is unclear to EGLE how the TOC for the RAWP was developed and why some work plans submitted as part of the ongoing RA were identified as Appendices in the RAWP while others were not included in the text or TOC of the RAWP and are instead identified as Attachments to the subject CWP. To ensure the Respondents adequately address Agency comments, and for consistency, clarity, and completeness, EGLE requests the subject RAWP include stand-alone Appendices for all work plans that were developed.

3. The subject OMMP proposes a one-year post-construction operations maintenance, and monitoring (OMM) period which includes using periodic bathymetric surveys. The OMMP establishes 12 inches of decrease over a contiguous 200 square feet (ft²) area as the trigger for evaluating in-river erosion, which is unacceptable for a few reasons.

First, bathymetric survey equipment and real-time kinematic (RTK) GPS controls provide accuracy on the order of a few inches, not a foot. Next, some DMUs are expected to only receive 12-inches of backfill and it is unreasonable to use an erosion threshold equivalent to the expected backfill thickness as underlying materials may be exposed by the time corrective actions are taken in such scenarios. Lastly, a one-year OMM period may not be sufficient to evaluate the success of the floodplain, riverbank, or sediment restoration and stability under a range of flow conditions. Particularly along riverbanks and in active floodplains, monitoring for a minimum of three years and preferably five should be done to determine if the intended species diversity, coverage by native vs invasive species, and shrub/tree survival have been achieved.

In addition to the periodic monitoring, the OMMP must include monitoring after significant events such as large flood events (e.g., 10-year, 25-year, 50-year flood, 100-year flood). If significant erosion is found, backfill would be added until the eroded surface achieves the original restoration grade, armoring designed to withstand the flows that caused the erosion would be added, and monitoring would continue until that armor has shown it can withstand the flow condition that caused failure. For example, if a 10-year flow causes erosion, backfill would be added until the post construction grade is achieved, armor would be added to withstand a 10-year flow, and monitoring would be required until that armor is found to withstand a 10-year flow. Once any added armor shows it can withstand flows that previously caused erosion, monitoring would only be required following higher flows. If a 10-year flow causes erosion, armoring has been added and shown it can withstand a 10-year flow, then monitoring would only be required for flows greater than a 10-year return (i.e., 15-, 25-, 50-, 75-, 100-year, etc.).

EGLE proposes using a threshold in the range of three to four inches of decrease over a contiguous area as a trigger for evaluating erosion as this is within the range of accuracy of the survey-grade bathymetric equipment with an RTK GPS. Those threshold values also have a practical application since the armor stone that is proposed to be utilized in the stabilization backfill has a median particle diameter of four and a half to five and a half inches, so a change greater than three to four inches would represent approximately one layer of armor stone.

4. As commented on the 100RD and several RA work plans, EGLE is concerned that situations may arise during residual dredging phases that may mobilize contaminated sediment on to clean backfill if dredging is still occurring upstream of areas that are completed, and backfilling occurs as currently planned. This comment is also applicable to the subject RAWP, which contains text outlining the post-dredge confirmation and backfill sequencing and procedures (Section 4.8). EGLE understands that a situation like this is highly likely due to the limited confirmation sampling approach which only releases surficial intervals rather than fully characterizing cores for residual dredging. Backfill must be placed in each dredge management unit (DMU) once post-dredging verification is complete in all adjacent upstream DMUs. EGLE understands that different sections of the river will be dredged in the first year and that S-IM1 does not need to wait until all upstream dredging is completed. However, main river segments that are contiguous should be backfilled only after upstream DMUs have been confirmed similar to the phasing proposed at VPP.
5. The FSP proposes collecting one aliquot from five subareas within each DMU and subareas range from 1,000 ft² to over 4,000 ft². The FSP then proposes compositing the five aliquots for comparison to action levels established for this RD/RA, so DMUs range from 5,000 ft² to over 20,000 ft² in total area.

However, the FSP also provides several examples of when confirmation sampling in each subarea, or an entire DMU, would not be completed. The scenarios where confirmation aliquots would not be collected include the presence of high subgrade (stiff clay, dense gravel/cobble, or rock that prevents the Contractor from achieving the design dredge elevations) within the dredge confirmation cell; the inability to collect full 0 to 12-inch confirmation sediment core in one or more composite aliquot location; and, if there less than 80 percent recovery in one or more composite aliquot location.

Text in the FSP also states that a minimum of three sample aliquots for each confirmation sample will be required, which suggests that in some instances a confirmation sample may not be collected at all (i.e., if less than three aliquots are collected).

Overall, the FSP falls short on describing how the proposed random sampling strategy with a limited number of aliquots (i.e., five) over large DMUs (5,000 ft² to over 20,000 ft²) is sufficient to determine if the 'hot spot' has been removed. EGLE continues to have concern about the adequacy of the Area 1 RD/RA PDI

in delineating the nature and extent of contamination and defining the depth to a clean surface. A standard confirmation sampling plan would consider the confidence in the design data and the objectives of the cleanup. The FSP does not provide data quality objectives, nor does it consider the adequacy of the data being used to develop dredge cuts and DMUs. Furthermore, the size of the DMUs is too large based on the cost estimates provided by the Respondents in the Area 1 Feasibility Study that were used in the Area 1 ROD which assumed one sample would be collected every 500 ft².

The FSP is also very rigid and lacks the flexibility necessary to adjust to conditions in the field while still providing the necessary assurance that the goal of the remedial action (i.e., removal of 'hot spots') has been achieved. Given the importance of the confirmation sampling program and limited number of aliquots being proposed over large DMUs, the level of effort outlined in the FSP is insufficient. The FSP must be edited to provide sufficient flexibility to adjust for localized conditions rather than simply abandon confirmation sample locations.

The substrates that are identified as "high subgrade" are inappropriate when considering that the native riverbed is largely comprised of interbedded sands, silts and gravels, and the paper mill waste and PCB source material is mostly comprised of clay-sized particles that can be interbedded with or interspersed within coarser deposits, or present as large, thick, contiguous masses in quiescent or depositional areas. The term "clay" appears to be used to characterize material that would normally be referred to as a "till". Cores must be advanced to refusal using a robust method that is sufficient to penetrate the soft sediment column and collect sediments that range from mostly fine-grained materials (i.e., silts and clays) to coarser materials, such as sands and gravels.

A more reasonable process would be to complete sediment poling across the subareas and DMUs after dredging to approximate the remaining soft sediment thickness and adjust the proposed confirmation core locations, if necessary. Less than ideal sample recovery (i.e., less than 80 percent) may require an adjustment in field procedures and is not an adequate reason to abandon confirmation sampling, especially given the limited number of aliquots and large size of the subareas and DMUs.

EGLE's preference would be to alter the proposed approach in the FSP to include completion of soft sediment poling prior to confirmation sampling, significantly increase the number of sample aliquots and/or scale the DMUs and subareas to an appropriate size, and utilize a more robust sample strategy to ensure the objective of the remedial action has been achieved.

6. Several RA work plans included text describing the decision-making process during dredging operations, and many times that text was inconsistent across documents and did not accurately describe the decision-making process that was developed and agreed upon by the Work Group. To eliminate any confusion during dredging, EGLE recommends eliminating and/or reducing textual

descriptions of the decision-making process and simply inserting or referring to the Post-Dredge Management Decision Tree for the Remedial Reach that was an attachment to an email from the Respondents Representative to the project team dated April 15, 2022, and incorporating the edit requested in Comment #7 below.

Also, as noted in the U.S. EPA's February 18, 2021, comments on the Post Dredge Management Decision Tree, confirmation sample intervals should be zero to three inch, three to twelve inch, and six inch intervals thereafter.

As previously stated, EGLE will not support the use of alternate, higher criterion to close DMUs without additional reasoning and documentation that justifies ceasing dredge operations.

7. The Respondents have elected to retain "deeper" intervals collected in confirmation cores and sequentially release "deeper" intervals if and only if the samples in the upper-foot exceed the action-specific thresholds in the Post Dredge Management Decision Tree for the Remedial Reach. Originally, the Work Group had agreed that all "deeper" intervals would be immediately analyzed if samples in the upper-foot did not achieve the action-specific thresholds that were developed so that the second dredge pass could be reliably designed to a "clean" surface (i.e., a surface with total PCBs less than one part per-million). This approach was driven by concerns centered around the adequacy and representativeness of the PDI data, but also provided some level of assurance that any contaminated inventory that remained following the first pass could be removed in no more than two subsequent passes. The added benefit is that approach would also reduce the potential amount of generated residuals. Conversely, under the proposed approach, multiple rounds of dredging (i.e., more than three) may be required to ultimately achieve a "clean" surface, and multiple round of dredging will increase the potential for the generation of dredged residuals.

Since the Respondents have altered the approach and the protocols required to reduce the amount of dredge passes are no longer in-place, EGLE requests that the Post-Dredge Management Decision Tree be edited to no longer include an "off ramp" following completion of a third dredge pass. The potential for generating residuals during each dredge pass must be controlled using industry standard protocols and best management practices (BMPs). See Comment #8 below.

8. Due to the low-lying nature of Verburg Park (RSA 1) and the location proposed for the RSA 1 sediment processing area (SPA), dredging operations will need to stop and staff will need to immediately begin emptying contaminated sediments from the RSA 1 SPA if there are forecasts for inclement weather and potential for flood conditions that would inundate the RSA 1 SPA.

9. The Resuspension Control Plan (RCP) outlines several dredging BMPs that will be followed. In addition to the listed dredging BMPs, the following BMPs should be considered:
 - a. No side casting or underwater stockpiling should be allowed.
 - b. If not already completed, a pre-dredge survey should be conducted to identify potential debris that may interfere with bucket operation.
 - c. The bucket should be paused at the water surface to maintain sediment capture.
 - d. Bucket descent should be slowed down at least three feet above sediment surface to limit disturbance.
 - e. Leveling of the dredge surface by dragging/sweeping the bucket should not be allowed.
 - f. Once the bucket is above the water line it can only be opened on the barge.
 - g. Dredging should occur from higher to lower elevations to reduce the potential for sloughing.
 - h. Multiple bites with the dredge bucket should not be allowed.

Additionally, “optimizing” the amount of material in each bucket, as described in the RCP text, may over fill each bite, causing excess sediment to slough out. One of the BMPs should be to ensure that each bite allows for sufficient overlying water so that each bite does not over cut or overflow the bucket.

10. Turbidity curtains are most suited for containing contamination associated with particulate matter. Consideration should be given to monitoring dissolved contaminant transport outside turbidity curtains, especially during dredging of toxic substances control act (TSCA) material.

The cost estimates provided in the Area 1 ROD for the sediment remedy were taken from the Area 1 Feasibility Study (FS) – Appendix H and include real-time turbidity monitoring at three locations (one upstream and two downstream) and water column sampling for total suspended solids (TSS) and PCBs at the three locations weekly.

Given that the cost estimates for the sediment remedy in the Area 1 FS and ROD included turbidity and contaminant monitoring, and considering the volume, depth, and high PCB contamination levels present in areas that are proposed for remediation, a contaminant monitoring plan consistent with the Area 1 FS/ROD must be included in relevant work plans.

EGLE has provided this comment several times, including on the 95RD – Remedial Reach and 100RD – Remedial Reach. The Respondents provided a similar Response both times to the comment, which generally stated that the Substantive Requirements Documentation that requires turbidity monitoring is sufficient since turbidity is a surrogate for TSS and PCBs. And, PCB and TSS monitoring is not necessary since field adjustments cannot be made in real-time due to the time it would take to have samples analyzed. Some of the operations are planned to occur adjacent to and upstream of two industrial water intakes which will remain operational during the remedial activities under the assumption the turbidity controls and BMPs will be sufficient to control impacts to water quality.

Minor or near background levels of turbidity outside of the dredge area will not provide a means to quantify PCBs in the water column or the extent of water column impacts that could extend well outside of the remedial footprint and may negatively impact remedy performance in other Reaches of Area 1 or other Areas of OU5.

11. The Survey Plan (SP) only discusses pre-condition surveys and states that, “Post-construction surveys will include a site conditions surveys and topographic and bathymetric surveys, as needed.” First, EGLE is certain a post-construction survey will be needed. Second, additional surveys may also be needed during RA implementation (i.e., to confirm that each DMU has achieved the required cut depth). As survey (i.e., pre- and post-construction) and sampling data is collected and validated, the Respondents should submit those data in a timely manner to the centralized database that is maintained by the US EPA since it will need to be retained and utilized in the future (e.g., during post-construction monitoring). See Comment one for EGLE’s preferences for survey figures.
12. Dredge operations equipment shown in Table 4.1 of the Dredge Work Plan (DWP) includes a 300-horsepower work boat of unknown length and two different types of pontoon pushboats. The photographs show that the pushboats are fairly large watercraft with powerful motors and the work boat appears to be 20 to 30 feet in length. EGLE has concerns that this equipment may be oversized for the shallow water and relatively narrow width of the river in this section. Furthermore, the dredging operations footprint for the main channel will encompass nearly the entire width of the channel, leaving very little room to operate large vessels and maneuver scows. Dredging and support operations in Verburg Pond will be limited by shallow water depths and vessel draft. EGLE recommends the Respondents consider downsizing the work boats being proposed to increase maneuverability.

Also, designated “sediment” and “backfill” scows should be used as much as possible to avoid cross-contamination of clean backfill material. Scows which have been in direct contact with TSCA sediments will require PCB wipe sampling verification of proper decontamination prior to using the scow for backfill.

13. Pre-placement chemical analysis of backfill material must be included in the Backfill Work Plan (BWP) or a reference to a companion document containing this information should be included. Backfill material should be compared to probable effect concentrations to ensure that backfill materials will not cause harmful effects to aquatic life.

The BWP proposes collecting push cores on an as-needed basis to verify backfill thicknesses have been achieved. Instead of utilizing push cores to supplement verification protocols on an as-needed basis, all DMUs should include push cores as an additional verification technique to confirm that the design backfill thickness has been achieved since uniform lifts may not be achieved in areas with high flowrates and deeper waters.


The BWP states that allowable tolerances for backfill placement have been established but needs to be updated to specify those tolerances.

14. Text in the Temporary Construction Plan (TCP) states, "If weather conditions cooperate, Severson will work through the winter as much as possible to progress the work forward. Presently, our schedule indicates a brief winter shutdown for weather and holidays. Dredging in 2022 would advance as weather permits with sediment to be processed at SPA-1".

In discussions following completion of the RA at the CVSC and leading up to the Remedial Reach RA, the Respondents indicated that they would be shutting down for the winter and resuming work in spring. This decision was directly influenced by challenges that occurred during the CVSC RA, which began during the Fall and continued through the Winter and into the Spring. EGLE encourages the Respondents to reconsider the approach outlined in the TCP and adjust the schedule to include a temporary shut down during the winter season, which will likely extend from November until March or April.

15. PCB-laden source material, often visible as fine, grey clays in this reach, is frequently observed within the root mass of toppled trees near the shoreline.

If these types of materials are observed during shoreline clearing and/or stump removal activities, they should be removed and replaced with clean backfill so that they are not left behind as a long-term source of PCBs to the system. See image below from Appendix C of the Area 1 FS highlighting this concern.

	PHOTOLOG SHEET
	Site: Kalamazoo River
	Location: Area 1/Section 5
	Project: Kalamazoo River
	Date: 6/11/2013
	Photo #: 59
	Photographer: Mark Prytula
	Description: 42.406587 N 85.589321 W Tree roots upturned.

16. Text in the Water Treatment Plan (WTP) states that, “The on-site water treatment system will treat water to the requirements presented in the National Pollutant Discharge Elimination System (NPDES) and pending SRD – Attachment 1.” Because Attachment 1 has not been included with the water treatment plan, the list of analytes required to be tested for NPDES permit compliance should be provided. In addition to PCBs, dioxins/furans should also be tested regardless of NPDES permit requirements as these are site constituents of concern.
17. Text in the subject CQAQCP states that, “Materials may be reused elsewhere on the project with the concurrence of the Respondents’ Representative and may require testing prior to relocation and reuse.” EGLE was surprised to see this mentioned in one of the final RA documents since it has not been previously discussed by the work group or included as element of the RD/RA, which has been ongoing for a few years. EGLE would not support the reuse and relocation of any material from the SPA and all material within the SPA should be properly disposed of at an off-site landfill. See Specific Comment #10 on the subject CQAQCP for more information.
18. Specifications for erosion control fabric are not included in the Restoration and Plantings Plan. The specifications should be for wildlife friendly products that will not pose an entrapment hazard for snakes or other small wildlife. This project is within the range of the Eastern Massasauga Rattlesnake, which is listed under the Endangered Species Act as threatened. Some information on wildlife safe materials and best practices is included below, and additional information and a list of products that meet these specifications can be found here:
<https://fws.gov/initiative/protecting-wildlife/make-change-wildlife-friendly-erosion-control-products>

Wildlife safe materials are those that are 100 percent biodegradable, made from natural fibers, and use a loose weave (often called leno weave) that allow animals to wiggle free.

To minimize wildlife entanglement and plastic debris pollution, choose temporary erosion and sediment control products that either do not contain netting, or that contain netting manufactured from 100 percent biodegradable non-plastic materials such as jute, sisal, or coir fiber. Degradable, photodegradable, UV-degradable, oxo-degradable, or oxo-biodegradable plastic netting (including polypropylene, nylon, polyethylene, and polyester) are not acceptable alternatives. All netting materials used should have a wildlife-safe, loose-weave design with movable, non-welded joints between the horizontal and vertical twines, allowing the twines to move independently and thus reducing the potential for wildlife entanglement. Erosion control blankets and mats should be staked down to the ground and secured with wooded stakes and have the edges buried. Netting that is elongated (rectangular), not square, reduce wildlife entanglements. Avoid the use of silt fences reinforced with metal mesh or plastic mesh. When no longer required, temporary erosion and sediment control products should be promptly removed, usually as soon as vegetation establishes in the soil.

EGLE appreciates the opportunity to review and comment on the subject work plans for Area 1 and looks forward to working with all parties involved on this project. If you have any questions, please contact Mr. Daniel Peabody, Environmental Quality Analyst, Remediation and Redevelopment Division at 517-285-3924; PeabodyD@Michigan.gov; or EGLE, P.O. Box 30426, Lansing, Michigan 48909-7926.

Sincerely,



Daniel Peabody
Environmental Quality Analyst
Superfund Section
Remediation and Redevelopment Division

Attachments

att/cc: Megan Miller, Michigan Department of Attorney General
Dr. Keegan Roberts, CDM Smith
Dr. Lisa Williams, U.S. Fish and Wildlife Service
Matt Diana, Michigan Department of Natural Resources (MDNR)
Mark Mills, MDNR
Jay Wesley, MDNR
Kyle Alexander, EGLE
Derek Haroldson, EGLE

David Kline, EGLE
John Riley, EGLE
Luke Trumble, EGLE
Joseph Walczak, EGLE

Allied Paper Inc./Portage Creek/Kalamazoo River Superfund Site
Construction Quality Assurance/Quality Control Plan
Remedial Reach
Kalamazoo River Area 1

SPECIFIC COMMENTS

Commenting Organization: EGLE

Section: 2.4

Page #: 2-2

Lines #:

Specific Comment #1: Other documents reference general coordination with the Agencies during ongoing RA activities (i.e., during confirmation sampling; clearing of DMU's; etc.). There appears to be some general coordination and consultation missing in this Section that would generally be expected for an RA of this magnitude and more coordination and consultation than what is listed here was described in other RA documents. This list also does not clearly lay out the Agencies role during field oversight. Update this list to include coordination/consultation with the Agencies, consistent with previous Area 1 RA at CVSC and text in other RA WPs (i.e., FSP).

Commenting Organization: EGLE

Section: 3.2.2

Page #: 3-2

Lines #: 1

Specific Comment #2: Provide additional clarification on how regular the construction progress meetings will be held (e.g., every other week, weekly, once a month etc.). Additionally, provide a discussion of when meetings will be specifically held for informing EPA and EGLE of progress.

Commenting Organization: EGLE

Section: 4.5

Page #: 4-2

Lines #: 9-10

Specific Comment #3: Revise the text to specify the action levels for vibration monitoring and associated corrective actions.

Commenting Organization: EGLE

Section: 4.5

Page #: 4-3

Lines #: 1-3

Specific Comment #4: Revise this section to include a discussion of the approach that will be used to visually inspect for signs of deflection or deformation, the level of observed deflection or deformation that may require corrective actions, and potential corrective actions that may be required if substantial deformation and deflection of a sheet pile wall is observed.

Commenting Organization: EGLE

Section: 5.1

Page #: 5-1

Lines #: 10-11

Specific Comment #5: If the Contractor is unable to remove debris in areas where a residuals management cover is required, the debris must be cut at or slightly below the mudline before backfill placement. Revise the document accordingly.

Commenting Organization: EGLE

Section: 5.2

Page #: 5-1 to 5-2

Lines #: NA

Specific Comment #6: This section must discuss procedures for identifying and surveying high subgrade areas that are to be considered from exclusion of the dredge area. Discuss development of maps, poling surveys, and/or other survey methods for identifying high subgrade extents and how those data will be provided to EPA for review and decision making.

Commenting Organization: EGLE

Section: 5.2

Page #: 5-2

Lines #: NA

Specific Comment #7: As commented during the 95% and 100% design submittals, this section

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should indicate that the types of survey methods used for the pre-construction survey will be consistent with methods used for post-construction surveys. For example, a pre-construction multibeam survey should be compared to a post-construction multibeam survey.

Commenting Organization: EGLE

Section: 5.3

Page #: 5-3

Lines #: NA

Specific Comment #8: Revise the text to include a stop-work requirement if turbidity limits cannot be achieved after all the corrective actions and BMPs discussed in this section are implemented. The construction activities should be temporarily ceased until additional corrective actions can be implemented to control turbidity.

Commenting Organization: EGLE

Section: 6.2

Page #: 6-2

Lines #:

Specific Comment #9: Add specific tolerances for backfill placement.

Commenting Organization: EGLE

Section: 7.0

Page #: 7-1

Lines #: 18-23

Specific Comment #10: The text states that, "Materials may be reused elsewhere on the project with the concurrence of the Respondents' Representative and may require testing prior to relocation and reuse." First, reuse and relocation has not been previously discussed so EGLE was surprised to see this mentioned in one of the final RA documents. Next, the selected sediment remedy for the Remedial Reach ('hot spot' removal) does lend itself to reusing materials since the remedial action is focused in select locations that contain extremely high concentrations of PCBs. Finally, material would have had to been characterized in-situ for all hazardous substances at a scale the would allow an operator to separate "clean" from "dirty" material, and material that is desirable (e.g., sands and gravels) from material that is undesirable (i.e., paper waste and fine-grained silts and clays). Then, materials would have had to be segregated and resampled to confirm that they pass reuse criteria. It is simply too late in the process to propose reusing materials since the legwork necessary to support reuse was not completed by the Respondents. Also, waste materials cannot simply be "relocated" and EGLE is unsure what is meant by "relocation". Any mention of reuse and relocation should be removed from the document as this approach has not been discussed by the work group and had not been included as part of the RD/RA.

Commenting Organization: EGLE

Section: 9.2.3

Page #:

Lines #:

Specific Comment #11: The desire to delay reporting until all sediment 'hot spots' in the Remedial Reach, including KPT-19, have been addressed is not acceptable. EGLE agrees a final completion report will need to be submitted once the entire remedial action is complete; however, similar to reporting that was requested as part of the CVSC RA, there are key pieces of information that should be reported once the remedial action associated with the subject Work Plans is finished. A list of deliverables developed by EGLE and the US EPA for the CVSC RA and provided to the Respondents is included below. See Comment #1 in the cover letter for more information.

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SPECIFIC COMMENTS

Commenting Organization: EGLE

Section: Attachments **Page #:** i **Lines #:**

Specific Comment #1: Reference to the additional plans such as the Operation Maintenance and Monitoring Plan, and the CQAQC Plan should be added on the table of contents and in attachments.

Commenting Organization: EGLE

Section: Attachment 2 **Page #:** **Lines #:**

Specific Comment #2: Consider printing the schedule in Attachment 2 on 11x17 pages so that the entire schedule can be viewed across 1 or 2 pages.

Commenting Organization: EGLE

Section: Attachment 2 **Page #:** 2 of Attachment **Lines #:**

Specific Comment #3: The schedule should also consider the time needed for EPA to review surveys and analytical data at each dredge area before backfill placement. Provide time on before lines: 65, 69, 75, 79, and 85 that will be sufficient for receipt of lab data and EPA review.

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Operation, Maintenance, and Monitoring Plan
Remedial Reach
Kalamazoo River Area 1

GENERAL COMMENTS

Commenting Organization: EGLE

General Comment #1: In addition to the periodic monitoring, revise the OM&M Plan to include monitoring after significant events such as large flood events (e.g., 50-year flood, 100-year flood).

Commenting Organization: EGLE

General Comment #2: The OM&M Plan discusses different types of fill materials (e.g., common fill and topsoil) presumably from different sources but does not mention any testing requirements for fill materials. Revise the plan to specify analytical testing requirements for any material to be placed on-site.

SPECIFIC COMMENTS

Commenting Organization: EGLE

Section: 1.1

Page #: 1-1

Lines #: 10-13

Specific Comment #1: The text states that after one year, "OM&M activities that are not considered complete or necessary to verify that the applied remedy remains effective will be continued until such time that they are complete." Revise the text to clarify that determination of completeness will be made by the agencies. Similar text in Section 7 should also be revised to clarify that activities not considered complete by EPA will continue under the Area 1 Operations, Monitoring, and Maintenance Plan.

Commenting Organization: EGLE

Section: 3.2.2

Page #: 3-3

Lines #: 1-10

Specific Comment #2: Revise the text to specify that the bathymetric surveys will rely on the use of multibeam as much as possible, and the same survey techniques will be used for the periodic bathymetric surveys to allow for adequate comparison of different surveys events.

Commenting Organization: EGLE

Section: 4.1

Page #: 4-1

Lines #: 1-8

Specific Comment #3: Based on the dredge decision tree, some DMUs are expected to have a 12-inch backfill thickness and it is unreasonable to use an erosion threshold equivalent to the expected backfill thickness as underlying materials may be exposed by the time corrective actions are taken in such scenarios. First, bathymetric survey equipment and real-time kinematic (RTK) GPS controls provide accuracy on the order of a few inches, not a foot. Next, some DMUs are expected to only receive 12-inches of backfill and it is unreasonable to use an erosion threshold equivalent to the expected backfill thickness as underlying materials may be exposed by the time corrective actions are taken in such scenarios. Lastly, a one-year OMM period may not be sufficient to evaluate the success of the floodplain, riverbank, or sediment restoration and stability under a range of flow conditions. Particularly along riverbanks and in active floodplains, monitoring for a minimum of three years and preferably five should be done to determine if the intended species diversity, coverage by native vs invasive species, and shrub/tree survival have been achieved.

In addition to the periodic monitoring, the OMMP must include monitoring after significant events such as large flood events (e.g., 10-year, 25-year, 50-year flood, 100-year flood). If significant erosion

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is found, backfill would be added until the eroded surface achieves the original restoration grade, armoring designed to withstand the flows that caused the erosion would be added, and monitoring would continue until that armor has shown it can withstand the flow condition that caused failure. For example, if a 10-year flow causes erosion, backfill would be added until the post construction grade is achieved, armor would be added to withstand a 10-year flow, and monitoring would be required until that armor is found to withstand a 10-year flow. Once any added armor shows it can withstand flows that previously caused erosion, monitoring would only be required following higher flows. If a 10-year flow causes erosion, armoring has been added and shown it can withstand a 10-year flow, then monitoring would only be required for flows greater than a 10-year return (i.e., 15-, 25-, 50-, 75-, 100-year, etc.).

EGLE proposes using a threshold in the range of three to four inches of decrease over a contiguous area as a trigger for evaluating erosion as this is within the range of accuracy of the survey-grade bathymetric equipment with an RTK GPS. Those threshold values also have a practical application since the armor stone that is proposed to be utilized in the stabilization backfill has a median particle diameter of four and a half to five and a half inches, so a change greater than three to four inches would represent approximately one layer of armor stone.

Commenting Organization: EGLE

Section: 4.2

Page #: 4-1

Lines #: 4-5

Specific Comment #4: This section states that *"Watering may also be necessary to establish vegetation."* If watering may be required a plan indicating how GP will provide water to properly irrigate bank areas is required.

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GENERAL COMMENTS

Commenting Organization: EGLE

General Comment #1: Text in the RAWP states that the Respondents are working to obtain access agreements but at this time not all access agreements have been secured. Please provide more details on what agreements have and have not been secured.

SPECIFIC COMMENTS

Commenting Organization: EGLE

Section: Appendices

Page #: iii

Lines #:

Specific Comment #1: The appendices for the subject RAWP identified in the Table Of Contents includes several work plans (7) that were developed and submitted to support the remedial action for the Area 1 Remedial Reach (Appendices A through G). However, substantially more work plans were developed and submitted to the Agencies for review (23). A few work plans were disapproved, while most were given conditional approval and required that the comments provided be addressed. Revised submittals have been provided but at this time the Agencies have not provided comments on those Revised documents. The US EPA Comment Letter for the Area 1 Remedial Action Work Plan – Remedial Reach (RAWP) provides conditional approval to proceed with the remedial action and requires the Respondents to incorporate comments that are provided on the subject RAWP. It is unclear to EGLE how the TOC for the RAWP was developed and why some work plans submitted as part of the ongoing RA were identified while others were not included in the TOC or elsewhere in the document. For consistency, clarity, and completeness, EGLE requests the following work plans be added to the Table Of Contents as standalone Appendices:

- Construction Facilities Layout Plan
- Temporary Construction Work Plan
- Traffic Control Plan
- Survey Work Plan
- Dredge Work Plan
- Backfill Work Plan
- Dredge Material Management and Processing Plan
- Resuspension Control Plan
- Waste Materials Removal and Disposal Plan
- Water Treatment Plan
- Waterway Construction Plan
- Restoration and Planting Plan
- Decontamination Plan
- Construction Work Plan
- Construction Quality Assurance and Quality Control Plan
- Operations, Maintenance, and Monitoring Plan

Commenting Organization: EGLE

Section: 4.3.1

Page #: 4-2

Lines #: 8-9

Specific Comment #2: Specify the frequency of the word “regular” for site visits rather than qualitatively stating “regular site visits.”

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Commenting Organization: EGLE

Section: 4.3.4

Page #: 4-3

Lines #: 11

Specific Comment #3: Section 4.3.3 states that stockpiles will be covered to limit dust. Section 4.3.4 states mitigation of odor may be remedied by covering stockpiles. This statement is contrary to Section 4.3.3 and provides ambiguity regarding when stockpiles will not be covered. State in this section that stockpiles will be covered when not actively in use.

Commenting Organization: EGLE

Section: 4.3.5

Page #: 4-3

Lines #: NA

Specific Comment #4: Revise the text to include a stop work requirement if turbidity limits cannot be achieved after all the corrective actions and BMPs discussed in Section 4.3.5 and 4.3.6 are implemented. The construction activities should be temporarily ceased until additional corrective actions can be identified and implemented to control turbidity.

Commenting Organization: EGLE

Section: 4.5

Page #: 4-7

Lines #: 18-20

Specific Comment #5: Revise the text to state that RTK-GPS controls will be checked twice daily, before start and after completion of removal activities each day. If checking once a day, EGLE recommends checking before the start of removal activities so that the equipment can be recalibrated, if needed, before dredging.

Commenting Organization: EGLE

Section: 4.6

Page #: 4-7

Lines #: N/A

Specific Comment #6: This section must reference the most up to date dredge management decision tree. A copy of the approved dredge management decision tree should be included in this document.

Commenting Organization: EGLE

Section: 4.8

Page #: 4-9

Lines #: N/A

Specific Comment #7: As commented on the 100 percent design and the backfill work plan, EGLE is concerned that situations may arise during residual dredging phases that may mobilize contaminated sediment on to clean backfill if dredging is still occurring upstream of areas that are completed, and backfilling is planned as discussed in this section. EGLE understands that a situation like this is highly likely due to the limited confirmation sampling approach which only releases surficial intervals rather than fully characterizing cores for residual dredging. Revise this section when discussing backfill to state that "Backfill will be placed in each DMU once post-dredging verification is complete in all adjacent upstream DMUs." EGLE understands that different sections of the river will be dredged in year 1 and that S-IM1 does not need to wait until all upstream dredging is completed. However main river segments that are contiguous should be backfilled only after upstream DMUs have been confirmed similar to the phasing proposed at Verburg Park Pond.